

### **Response to Rejections Under 35 U.S.C. § 102**

Claim 18 was rejected under 35 U.S.C. § 102(b) as being anticipated by d'Autume (U.S. 5,062,699). The Examiner suggests that d'Autume discloses all of the claim limitations of claim 18.

Applicant has amended claim 18 to further distinguish it from d'Autume. Namely, claim 18 now recites “a non-conical surface comprising a plurality of continuous contours of differing radii.” d'Autume, at most, discloses a conical surface. Support for the amendment to claim 18 is found in Figs. 3-5 and the accompanying description. Figs. 3-5 disclose one novel, non-limiting embodiment of a non-conical surface of differing radii, wherein different radii are a function of contact angle with a bearing. Further, a non-conical surface having a plurality of continuous contours of differing radii is not a just a simple matter of design choice. The embodiment of Figs. 3-5 provide differing radii in a much more compact manner than a cone, and offers the advantage of differing radii as a function of contact angle, rather than requiring displacement along a cone to access another radius. Accordingly, Applicant respectfully requests that the rejection of claim 18 under 35 U.S.C. § 102(b) over d'Autume be withdrawn.

### **Response to Rejections Under 35 U.S.C. § 103**

The Examiner has rejected claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over Shaw (web article entitled “Cylindrical Bearing Equatorial Platform) in view of Odegard (web article entitled Equatorial Platform Meeting Notes). The Examiner alleges that each of the limitations found in claim 2 is taught by Shaw, and

that the limitations of the remaining claims are found in the combination of Shaw and Odegard. Applicant respectfully traverses the rejection.

First, as discussed in a telephone conference between Examiner Consilvio and the undersigned on May 23, 2005, neither Shaw nor Odegard has been established by the Examiner as prior art. The Office bears the burden of establishing a cited reference as prior art. The Examiner alleged that the Shaw article is prior art because another article listed at the same website has a copyright date of January 29, 2000. However, the ATM website only purports to list the articles according to their order of submission. Moreover, a copyright date is not necessarily a publication date. Therefore, Shaw has not been established as prior art and may not be used for a § 103 rejection until it is.

Applicant, however, has successfully contacted Chuck Shaw in an attempt to establish a prior art date for his article. Applicant has attached an email from Chuck Shaw dated May 24, 2005, stating that he does not know when he created his design (or when it was published and publicly available) with any specificity. According to MPEP 2128, “disclosures on the Internet or on an on-line database are considered to be publicly available as of the date the item was publicly posted. *If the publication does not include a publication date (or retrieval date), it cannot be relied upon as prior art under 35 U.S.C. 102(a) or (b).*” (Emphasis added). As the Examiner knows before a reference can be used under § 103, it must first be established as prior art under § 102. Therefore, according to the MPEP, the Examiner must show an included publication date from the website itself or the reference cannot be relied upon.

At the Examiner’s suggestion, Applicant visited [www.archive.org](http://www.archive.org) in an attempt to discover some evidence of the posting date of the Shaw article. The search result for

Shaw's article yielded an earliest possible date of June 24, 2001, which is *after* the filing date of the present application. Applicant has attached a copy of the search results from [www.archive.org](http://www.archive.org). Nevertheless, even if the "WayBackMachine" at [www.archive.org](http://www.archive.org) suggested a date earlier than the filing date of the present application, the MPEP rule remains (that the a publication date from the publication, not a report from a third party website, must be established). Therefore, the Shaw article has not been established as prior art and should be withdrawn.

In addition, Applicant notes that for purposes of § 102(a), "known or used by others" means *publicly* known or used. ("The statutory language 'known or used by others in this country' (35 U.S.C. § 102(a)), means knowledge or use which is accessible to the public." *Carella v. Starlight Archery*, 804 F.2d 135 (Fed. Cir. 1986)). Even if Shaw's design was known to him, to establish his design as prior art based on something "known or used," the Examiner must show that the Shaw design information was *accessible to the public*.

The same reasoning applies to Odegard. Further, there is no information available from [www.archive.org](http://www.archive.org) for the Odegard article. The search results (attached) do not identify any date at all. There is nothing to substantiate the article's claim of a 1998 meeting, nor is there a publication date, nor has it been established that the information in the meeting was publicly available. Accordingly, the Odegard article should be withdrawn as prior art as well.

Nevertheless, assuming, *arguendo*, that Shaw and Odegard are prior art to the present invention, Applicant contends that the Office has not established a *prima facie* case of obviousness. As the Examiner knows, for a claim to be obvious, there must be a) a suggestion or motivation to combine reference teachings, b) a reasonable

expectation of success, and c) the references must teach all of the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). The Office has failed to show each of these requirements.

The Examiner rejected claims 1 and 6, alleging that it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and Odegard to replace the cylindrical rear bearing block of Shaw with a conical rear bearing block identified by Odegard. Applicant contends that there is no motivation to combine the teachings of Odegard and Shaw. As the Examiner knows, if a “proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). The very purpose of Shaw is to introduce *all cylindrical bearings*, not conical bearings. The title of the article is “Cylindrical Bearing Equatorial Platforms.” Shaw outlines in his introductory paragraphs the “difficulty of machining conical bearings.” Shaw states that “[t]here had to be a better way [than using conical bearings,] [t]hat’s when I decided to try using *all cylindrical bearings*.” Shaw at p. 1. Shaw expressly teaches against conical bearings. Therefore, there would be no motivation for one of ordinary skill in the art to combine the teachings of Shaw with Odegard. In fact, doing so would completely defeat the stated goal of Shaw (i.e. all cylindrical bearings). Accordingly, because the combination of Shaw and Odegard is improper, Applicant respectfully requests that the rejection of all claims 1-19 over Shaw in view of Odegard be withdrawn.

Further, for a proper § 103 rejection, the references must teach all of the claim limitations. With regard to claims 1 and 6, the Examiner states that Shaw discloses a “platform base having a plurality of adjustable engagement angle rolling bearing

elements.” However, the Examiner does not point to any figure or text in Shaw that actually shows or discusses the “adjustable engagement angle roller bearing elements.” In addition, after careful study, Applicant has not found any “adjustable engagement angle roller bearing elements” in Shaw. None of the figures suggest any adjustability of the roller bearing element *engagement angle*. The only possible “adjustment” that Applicant could find relates to “shimming” the platform (page 3 of Shaw) when a user changes latitude. However, the “shimming” has nothing to do with the *engagement angle* of the roller bearing elements. Instead, as described at page 3 and confirmed in the attached email message from Mr. Shaw, the “shimming” is a reference to putting shims “under the base board between the foot under the north side of the baseboard and the ground.” *See* email message from Mr. Shaw dated May 24, 2005; p. 3 of Shaw. A suggestion to place shims between the base board and the ground does not constitute a disclosure of “a plurality of adjustable *engagement angle* roller bearing elements.” Shaw only discloses fixed angle bearings, and does not suggest anything else. Accordingly, the rejection of claims 1 and 6 should be withdrawn on this basis as well. Nevertheless, if the rejection based on Shaw persists despite the failure to identify any reference disclosing *adjustable engagement angle* (not the angle of the whole apparatus by tilting it with shims--anything under the sun would have an “adjustable engagement angle” according to that scenario) rolling bearing elements *as claimed*, Applicant requests that the Examiner submit an affidavit in accordance with 37 CFR §1.104(d)(2) substantiating his allegation that adjustable engagement angle bearing elements are obvious. The applicant also requests opportunity to contradict the Examiner’s affidavit as prescribed by the rule.

In addition, claim 1 also recites “a front bearing surface of fixed radius and adjustable angle.” (See, for example, Fig. 5 of the present application, which illustrates a hinged front bearing surface 11 enabling angle adjustment). Again Applicant cannot find, and the Examiner has not identified, any front bearing surfaces of fixed radius and adjustable angle anywhere in Shaw. If “a front bearing surface of fixed radius and adjustable angle” cannot be identified, Applicant requests that the Examiner submit an affidavit in accordance with 37 CFR §1.104(d)(2) substantiating the allegation.

Claim 3 depends from claim 1, and should likewise be allowable for the reasons proffered above. Similarly, claim 7 depends from claim 6 and should be allowable.

The Examiner rejected claim 2 as obvious over Shaw. However, Applicant has amended claim 2 to further distinguish it from Shaw. As amended, claim 2 recites “adjusting the engagement angles of its rolling surfaces and contact rollers independent of a platform base angle.” Shaw only teaches operability at multiple latitudes by shimming one side of the entire platform (adding shims between the base and the ground). Claim 2 states (as taught by Fig. 5 and the accompanying description), that some embodiments of the present invention allow adjusting of the *engagement angles* between the rolling surfaces and contact rollers, and that the adjusting can be done independent of platform base angle. Accordingly, Applicant respectfully requests that the rejection of claim 2 over Shaw be withdrawn.

As mentioned above, Shaw does not disclose or suggest a “platform base having a plurality of adjustable engagement angle rolling bearing elements.” Neither does Odegard disclose these recited claim elements. Further, as mentioned above, Shaw does not disclose varying radii segments, and the teachings of Odegard are incompatible with Shaw as they relate to varying radii segments. Moreover, claim 4 recites both a rear

bearing block and a front bearing surface with varying radii segments. None of the cited references disclose this limitation, and there is certainly no reasonable expectation of successfully using conical front *and* rear bearing blocks as suggested by the *Examiner* (such a new combination is not taught or even suggested by either cited reference). Therefore, Applicant respectfully request that the rejection of claim 4 over Shaw in view of Odegard be withdrawn. Nevertheless, if the rejection remains, in the absence of any reference showing or suggesting a rear bearing block *and* a front bearing surface with varying radii segments, Applicant requests that the Examiner submit an affidavit in accordance with 37 CFR §1.104(d)(2) substantiating the allegations. The Applicant also requests opportunity to contradict the Examiner's affidavit as prescribed by the rule.

Claim 5 depends from claim 4 and should therefore be allowable for the same reasons proffered with regard to claim 4.

The Examiner rejected claim 8 over Shaw in view of Odegard. The Examiner submits that although neither Shaw nor Odegard disclose or suggest "a roller mounted to each of the plurality of adjustable hinges," a "hinge is a simple well known, and inexpensive means of support where angular adjustability is desired" which would be obvious to one of ordinary skill art to add to the combination of Shaw and Odegard. Applicant respectfully traverses the rejection.

Again, a proper obviousness rejection fundamentally requires that the references actually teach all of the claim limitations. The Examiner admits that even in combination, the cited prior art is completely missing a recited limitation from claim 8. Therefore, the examiner has not established a *prima facie* case of obviousness and a § 103 rejection is improper. While the Examiner's allegation that hinges are simple and

well known may be true, the test for obviousness is not whether an individual component of a claimed structure is new by itself. A proper claim rejection requires that the *claimed structural combination* be disclosed in an analogous reference. Shaw discusses tilting his entire apparatus. There is no suggestion or motivation to introduce a hinge. Applicant must again request that the Examiner submit an affidavit in accordance with 37 CFR §1.104(d)(2) substantiating his allegation (that despite the absence of any reference teaching, the Examiner knows that use of adjustable hinges to attach rollers to bases of telescope tracking platforms is well known and would be done by one of ordinary skill in the art without using impermissible hindsight). Applicant disagrees with the Examiner's assertion and thus also requests opportunity to contradict the Examiner's affidavit as prescribed by the rule. Further, Applicant again notes that modifying Shaw to include "a rear bearing block comprising a plurality of contours of differing radii" would completely destroy the primary teaching of Shaw (the cylindrical bearings). Accordingly, Applicant respectfully requests that the rejection of claim 8 over Shaw in view of Odegard be withdrawn.

Claims 9-15 depend from claim 8 and should also be allowable. In addition, many of claims 9-15 include additional limitations not taught or suggested by the cited references. For example, claim 9 states that "the contours of differing radii are defined as a function of contact angle between the rear bearing block and the at least two rollers." The Examiner points generically to the figures of Shaw on pages 11-13 in support of the rejection, yet the contact angles between rollers and bearings never change in any of the cited figures. Nor does Shaw disclose any contour whose radius would change as a function of contact angle. All of the Shaw contours are cylinders,

thus the angle at which the bearings meet the cylinders will not change the radius of in any way.

With regard to claim 10, which recites “at least one additional adjustable hinge...attached to the front bearing surface,” the Examiner asserts that “a skilled artisan would immediately recognize that a hinge would also be required to keep the platform level. Again, there is simply no teaching or suggestion in any of the cited references to support the Examiner’s proposition. Is there any disclosure by any cited reference indicating an adjustable hinge attached to both the front bearing surface and the telescope platform? The allegation relies solely on the Examiner’s personal knowledge. Applicant disagrees with the assertion, and therefore requests that the Examiner submit another affidavit, subject to rebuttal, in accordance with 37 CFR §1.104(d)(2) substantiating the allegation.

Similarly, with regard to claims 11-17, since there are no actual teachings or suggestions in the cited references related to the limitations, Applicant requests affidavits, subject to rebuttal, in accordance with 37 CFR §1.104(d)(2) substantiating each allegation not specifically shown by a cited reference. Applicant contents that the Examiner’s rejection is, at best, a use of impermissible hindsight. Many of the limitations of claims 9-17 are completely missing, and “it is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teaching of the prior art so that the claimed invention is rendered obvious...One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fritch*, 23 USPQ 2d 1780 (Fed. Cir. 1992).

Claims 12 and 17 recite that “at least one additional hinge is adjusted to an angle of displacement equal to 90 degrees plus the latitude angle of operation.” None of the

cited references discloses the plurality of hinges mounted to the planar base and rollers, or a front bearing surface attached to an additional hinge. Accordingly, there can be no disclosure of “at least one additional hinge...adjusted to an angle of displacement equal to 90 degrees plus the latitude angle of operation.”

Claim 15 recites a plurality of contours of differing radii according to a specific equation. The Examiner points to “pp. 12-14” of Shaw as disclosing the limitations of claim 15. Where is the family of contours? Where does Shaw disclose “the plurality of contours of differing radii?” Shaw teaches cylindrical surfaces, which by definition do not have differing radii as recited in claim 15. Claims 16-17 recites specific method steps that are never disclosed or performed by any of the cited references. In view of a plethora of missing claim elements, Applicant respectfully requests that the rejection of claim 11-17 over Shaw in view of Odegard be withdrawn.

The Examiner rejected claims 18 and 19 over the combination of Shaw and Odegard. Applicant contends that the combination is improper, and also notes that claim 18 has been amended to recite “a non-conical surface comprising a plurality of continuous contours of differing radii,” which is not disclosed or suggested by the prior art. Accordingly, applicant respectfully requests that the rejection of claims 1-19 under 35 U.S.C. §103(a) be withdrawn and claims 1-19 be allowed.

### New Claims

New claims 20-25 include limitations that are not disclosed or suggested by the prior art and should be allowable. In particular, Applicant notes that the contours of the bearing block (e.g., curves 24 of bearing block element 27 in Figs. 3-5) in accordance with claims 20-21 are different from the conical bearing surfaces disclosed by the prior art. Conical bearing surfaces may have different radii, but all the radii are swept from a common axis or centerline of the cone. The curves associated with a cone are rotationally symmetric. The curves shown in Figs. 3-5 of the present invention, on the other hand, do not have a common axis or center, they have multiple axes. The curves shown in Figs. 3-5 are also not rotationally symmetric. Accordingly, claims 20 and 21 should be allowable. Claims 22-25 should be allowable for many of the same reasons articulated above with respect to other claims.

### CONCLUSION

Applicant respectfully submits that all claims are in condition for allowance. Applicant respectfully requests the Examiner to telephone the undersigned attorney if there are unresolved matters in the present application so that the examination process can be expedited.

Respectfully submitted,

Date: 6/21/05

  
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encl: WayBackMachine results (2)  
Email message from Chuck Shaw